



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,851	07/03/2003	Gaku Sugahara	63979-027	3885

7590 08/30/2005

McDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
----------

MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
----------	--------------

2828

DATE MAILED: 08/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

44

<b>Office Action Summary</b>	Application No. 10/611,851	Applicant(s) SUGAHARA ET AL.	
	Examiner James A. Menefee	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

In the amendment filed 6/28/2005 claims 6-7 are added. Claims 1-7 are pending.

### ***Response to Arguments***

Applicant's arguments filed 6/28/2005 have been fully considered and are persuasive. The prior rejections are withdrawn in light of perfection of the foreign priority. However, upon further consideration, a new ground(s) of rejection is made below.

### ***Specification***

The abstract of the disclosure is objected to because it is over 150 words. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

Figures 3 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4, 5, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2000-244012 (previously cited w/ partial translation, full machine translation provided in this action).

Regarding claim 4, see Figs. 1 and 2, described in pars. [0011]-[0017]. '012 discloses a nitride semiconductor laser comprising a multi-layered semiconductor formed on substrate 101 and contains at least an n-type nitride semiconductor layer 103, active layer 104, and a p-type semiconductor layer 105; an n-type electrode 140 and p-type electrode 120 are electrically connected to the n and p type nitride semiconductor layers respectively; an insulating film 230 covers the semiconductor layers, the n and p type electrodes are connected to the semiconductor layers through the insulating film, and the thickness of the insulating film is greater than the difference in the claimed levels of the p and n type semiconductor layers, and the surface of the insulating film is flat.

Regarding claim 5, solder structures 240 are electrically connected to the electrodes. It is further disclosed that the device can be used as a flip-chip type device. Par. [0015]. In a flip-chip type of configuration there will necessarily be included a sub-mount with wires to connect to those electrodes. See, e.g., prior art Fig. 6(c) showing a flip-chip device bonded to submount via electrodes 21,22 which may be interpreted as wires.

Art Unit: 2828

Regarding claim 7, the electrodes are connected to the same sides respectively of the n and p semiconductor layers, i.e. the top sides of each.

While in Fig. 1 the device is described as an LED, '012 discloses the invention is also applicable to laser diodes. Par. [0030].

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over '012.

Regarding claim 1, '012 clearly discloses these method of fabrication steps as noted above regarding device claim 4. The only difference is the ordering of the steps, as '012 forms the electrode firsts (applicant's step 6) before covering the device with insulator (applicant's step 4). However, there is no evidence that any new or unexpected results occur from applicant's order of steps as opposed to the order found in '012, therefore since the only difference is the order of steps a prima facie case of obviousness has been made. See In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.).

Art Unit: 2828

Regarding claim 2, as noted in the above rejection of claim 6 solder structures are used to connect the electrodes to wires of a submount. The soldering is done by a reflow process, par. [0014], and therefore is done by a press-fitting of heat melted solder bumps.

Regarding claim 3, the insulator may include silicon, a semiconductor. Par. [0017].

Regarding claim 6, the electrodes are formed to be connected to exposed surfaces of the respective semiconductor layers.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lebby et al. (US 5,422,901) discloses a similar device in Fig. 6. While Lebby does not disclose the use of nitride semiconductors, such a modification would have been obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (571) 272-1944. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MinSun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'James Mehefee', with a stylized flourish extending to the right.

James Mehefee  
August 25, 2005